

CLAIMS

1. A data converter that converts color image data input from a computer into a specific data form expressible with ink provided in a printing apparatus by referring to a preset conversion table and outputs the converted image data,

said data converter comprising:

a storage unit that stores the conversion table in a rewritable manner, the conversion table being supplied from said computer corresponding to a current printing condition of image in said printing apparatus;

an input unit that receives the color image data output from said computer;

a conversion unit that refers to the conversion table stored in said storage unit and converts the color image data received by said input unit into the specific data form; and

an output unit that outputs the converted image data,

said data converter being constructed as a separate body from said computer.

2. A data converter in accordance with claim 1, said data converter further comprising:

a decoder unit that receives the conversion table compressed in advance by and supplied from said computer and decodes the compressed conversion table to be expanded in said storage unit.

3. A data converter in accordance with claim 1, said data converter further comprising:

an interpolation unit that interpolates the conversion table supplied from said computer to a predetermined accuracy and expands the interpolated conversion table in said storage unit.

4. A data converter in accordance with claim 1, wherein said input

unit receives a current printing condition of image in said printing apparatus, in addition to the color image data, and comprises a unit that, when the input printing condition received by said input unit is not coincident with a printing condition corresponding to the conversion table stored in said storage unit, receives another conversion table corresponding to the input printing condition from said computer.

5. A data converter in accordance with claim 1, wherein said input unit receives an image attribute, which represents whether or not a currently processed image is a natural image, from said computer, in addition to the color image data,

said storage unit stores a plurality of conversion tables having different image attributes, the plurality of conversion tables being selected by said computer at least based on combinations of a printing resolution of said printing apparatus and a type of printing paper and supplied from said computer, and

said conversion unit changes over a working conversion table to be referred to for the conversion of the color image data in a unit of pixel and carries out the conversion of the color image data, the working conversion table being selected among the plurality of conversion tables stored in said storage unit based on the image attribute received by said input unit.

6. A computer that supplies color image data to a data converter, said data converter converting the color image data into a specific data form expressible with ink provided in a printing apparatus by referring to a preset conversion table, and outputting the converted image data, said computer comprising:

an image data output unit that outputs the color image data to said data converter;

a conversion table storage unit that stores a diversity of the conversion tables mapped to a diversity of printing conditions of image;

a conversion table selection unit that selects a working conversion

table corresponding to a current printing condition of image in said printing apparatus, among the diversity of conversion tables stored in said conversion table storage unit; and

a conversion table output unit that outputs the selected conversion table to said data converter, prior to the conversion of the color image data, wherein said computer is constructed as a separate body from said data converter.

7. A computer in accordance with claim 6, wherein said conversion table storage unit stores the diversity of conversion tables in a compressive manner, and

said conversion table output unit decodes the compressed conversion table selected by said conversion table selection unit and outputs the decoded conversion table to said data converter.

8. A computer in accordance with claim 6, said computer further comprising:

a conversion table interpolation unit that interpolates the working conversion table selected by said conversion table selection unit to a predetermined accuracy,

wherein said conversion table output unit outputs the conversion table interpolated by said conversion table interpolation unit.

9. A computer in accordance with claim 6, wherein said conversion table selection unit selects the working conversion table, at least based on a combination of a printing resolution of said printing apparatus and a type of printing paper.

10. A computer in accordance with claim 6, said computer further comprising:

a condition storage unit that stores a printing condition corresponding to the latest conversion table output to said data converter; and

an identification unit that compares the current printing condition

of image in said printing apparatus with the printing condition stored in said condition storage unit, in order to carry out identification,

wherein said conversion table output unit outputs the selected conversion table and updates the printing condition stored in said condition storage unit, when said identification unit determines that the two printing conditions are not coincident with each other.

11. A computer in accordance with claim 6, said computer further comprising:

an image attribute generation unit that generates an image attribute, which represents whether or not a currently processed image to be printed is a natural image,

wherein said conversion table storage unit stores the diversity of conversion tables mapped to respective combinations of conditions, which include at least a printing resolution of said printing apparatus, a type of printing paper, and the image attribute,

said conversion table selection unit selects a plurality of conversion tables having different image attributes, at least based on combinations of the printing resolution of said printing apparatus and the type of printing paper,

said conversion table output unit outputs the plurality of selected conversion tables, and

said image data output unit outputs the image attribute in addition to the color image data, and comprises a unit that changes over a working conversion table, which is referred to by said data converter for the data conversion, in a unit of pixel based on the image attribute.

12. A data converter that converts color image data input from an imaging device, such as a digital camera or a color scanner, into a specific data form expressible with ink provided in a printing apparatus by referring to a preset conversion table and outputs the converted image data,

said data converter comprising:

a conversion table storage unit that stores a diversity of the conversion tables mapped to a diversity of printing conditions of image;

a conversion table selection unit that selects a working conversion table corresponding to a current printing condition of image, among the diversity of conversion tables stored in said conversion table selection unit;

an input unit that receives the color image data;

a conversion unit that converts the color image data received by said input unit by referring to the working conversion table selected by said conversion table selection unit; and

an output unit that outputs the converted image data,

wherein said data converter is constructed as a separate body from said imaging device.

13. A data converter in accordance with claim 12, wherein said conversion table storage unit is a rewritable storage unit, and comprises

a rewrite unit that rewrites the contents of storage in said conversion table storage unit, based on a conversion table transferred from said imaging device.

14. A data converter in accordance with claim 13, said data converter further comprising:

a rewrite unit that communicates with a computer, which is constructed as a separate body from said data converter, to receive a conversion table transferred from said computer, and rewrites the contents of storage in said conversion table storage unit based on the transferred conversion table.

15. A data converter in accordance with claim 12, said data converter further comprising:

a standard storage unit that stores a standard conversion table in advance,

wherein said conversion unit refers to the standard conversion table stored in said standard storage unit and converts the color image data when

the conversion table corresponding to the current printing condition of image is not present in the diversity of the conversion tables stored in said conversion table storage unit.

16. A printing system comprising:

a data converter in accordance with either one of claims 1 and 12;
and

a printing apparatus that receives image data having a specific data form converted by said data converter and prints an image corresponding to the input image data,

wherein said data converter is constructed integrally with said printing apparatus.

17. A method of converting color image data output from a computer into a specific data form expressible with ink provided in a printing apparatus by referring to a preset conversion table, and outputting the converted image data, said method comprising the steps of:

selecting a conversion table corresponding to a current printing condition of image among a diversity of conversion tables stored in advance in said computer;

storing the selected conversion table in a rewritable manner in a data converter, which is provided separately from said computer; and

referring to the stored conversion table, so as to convert the image data supplied from said computer.